

CLAIMS

We claim:

1 1. A method for accurately measuring hearing loss, comprising the steps of:
2 selecting a series of audio tones within the normal range of hearing;
3 measuring a relative sensitivity of a test subject with respect to the ability to hear
4 each of said audio tones, exclusive of the effects of tinnitus.

1 2. The method according to claim 1, further comprising the step of determining for
2 each tone an intensity necessary for said test subject to hear said tones at a
3 subjectively equal loudness level.

1 3. The method according to claim 2 further comprising the step of selecting said
2 intensity of said subjectively equal loudness level to exceed a level of noise attributable
3 to tinnitus for said test subject.

1 4. The method according to claim 2 further comprising the step of determining a
2 difference between said intensity measured for each of said tones and an intensity
3 predicted by a standard loudness contour for each of said tones.

1 5. The method according to claim 4 further comprising the step of selecting said
2 standard loudness contour to be at least one of a Fletcher-Munson Loudness Contour
3 and a functional equivalent of a Fletcher-Munson Loudness Contour.

1 6. The method according to claim 1 further comprising the step of measuring a
2 noise level attributable to tinnitus.

1 7. The method according to claim 6 further comprising the step of performing said
2 measuring step at a sound intensity level sufficient to exceed said noise level.

1 8. The method according to claim 1 further comprising the step of configuring at
2 least one gain setting of a hearing aid to compensate for said hearing loss determined
3 in said measuring step.

1 9. A method for setting a frequency dependent audio gain of a hearing aid device
2 for a person suffering from tinnitus, comprising the steps of:
3 measuring a test subject's loss of hearing attributable exclusively to dispersion in
4 the hearing channel;
5 setting for each of a plurality of frequency bands of said hearing aid device an
6 audio gain level to compensate exclusively for said dispersion loss.

1 10. The method according to claim 9 wherein said measuring step is further
2 comprised of:
3 selecting a series of audio tones within the normal range of hearing;
4 measuring a relative sensitivity of said test subject with respect to the ability to
5 hear each of said audio tones, exclusive of the effects tinnitus noise.

1 11. The method according to claim 10, further comprising the step of determining for
2 each audio tone an intensity necessary for said test subject to hear said audio tone at a
3 subjectively equal loudness level relative to a remainder of said series.

1 12. The method according to claim 11 further comprising the step of selecting said
2 intensity of said subjectively equal loudness level to exceed a level of tinnitus noise.

1 13. The method according to claim 11 further comprising the step of determining a
2 difference between said intensity and a predicted intensity indicated by a standard
3 loudness contour.

1 14. The method according to claim 13 further comprising the step of selecting said
2 standard loudness contour to be a Fletcher-Munson Loudness Contour.

1 15. A method for providing high fidelity hearing restoration, comprising the steps of:
2 measuring a test subject's loss of hearing attributable exclusively to dispersion in
3 the hearing channel;
4 setting for each of a plurality of frequency bands of a hearing aid device an audio
5 gain level to compensate exclusively for said dispersion.

1 16. A hearing aid device for a person suffering from tinnitus, comprising:
2 an audio amplification device having a plurality of audio frequency bands with
3 selectable gain levels, each of said gain levels set for producing a predetermined

4 amount of audio gain set to compensate exclusively for dispersion losses in the hearing
5 channel.

1 17. A method for accurately measuring hearing loss, comprising the steps of:
2 selecting a series of audio frequencies within the normal range of hearing;
3 measuring a test subject's loss of hearing at each frequency attributable
4 exclusively to dispersion in the hearing channel.